REMARKS

The Official Action dated May 12, 2003, has been carefully considered. Accordingly, the changes presented herewith, taken with the following remarks, are believed sufficient to place the present invention in condition for allowance. Reconsideration and allowance of all remaining claims is respectfully requested.

Claims 1, 5-7, 10, 13-14, 24 and 30-31 have been amended, claim 33 has been added, all of which find support in the specification as filed. It is believed that theses changes do not involve any introduction of new matter, whereby entry is believed to be in order and is respectfully requested. Claims 11-12, 15-18, 21-23, 26-29 and 32 have been canceled. Claims 1-10, 13-14, 19-20, 24-25, 30-31 and 33 remain in the application for consideration.

In the Official Action, the Examiner made final the restriction under 35 U.S.C. § 121 between claims 1-10, 13-14, 19-20, 24-25 and 30-31 (Species I) and claims 11-12, 15-18, 21-23, 26-29 and 32 (Species II and III). In light of the cancellation of claims 11-12, 15-18, 21-23, 26-29 and 32, Applicants believe the response to the restriction requirement is complete.

The Examiner noted objections to claims 1-10, 13, 19-20, 24-25 and 30-31. Applicants traverse the claim objections in full to claim 1 and in part to claim 24, where the Examiner objects to the use of "a pair of flanged fittings" and requests that it be replaced with "the pair of flanged fittings." Applicants believe that changing the "a" to "the" would create an indication that "a pair of flanged fittings" as recited in the preamble was what was being claimed, when in fact it is the self-aligning coupling that is being claimed. The "for" language in the preamble of these claims defines an intended use, not specifically claimed elements. As such, Applicants traverse this rejection. Moreover, in light of the amendments to claims 5, 10, 13, 24 and 30-31, Applicants believe that the remaining claim objections have been overcome and respectfully request reconsideration.

Claims 1-5, 10, 24-25 and 31 were rejected under 35 U.S.C. § 102(b) as being

anticipated by the Wolters et al U.S. Patent 4,036,258 (hereinafter referred to as "Wolters et al"). The Examiner asserted that Wolters et al disclose a device for connecting two valve casings to the ends of two pipelines or conduits having flanges. Moreover, the Examiner indicated that the disclosed device includes two lever arms having portions which are constructed as brackets or clamp shoes. The Examiner also asserted that the two lever arms are adapted for pivotal connection to one another having open and closed relative pivotal positions. Finally, the Examiner alleged that the pneumatic drive arrangement is adapted to mechanically synchronize the closing of the two lever arms relative to the two value casings to be connected in use, and further adapted to provide motion between the two lever arms to receive and secure a flange on one of the valve casings.

However, as will be set forth in detail below, it is submitted that the self-aligning coupling defined by claims 1-5, 10, 24-25 and 31 are not anticipated by Wolters et al. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

As defined by claim 1, from which claims 2-5 and 10 depend, the present invention is directed to a self-aligning coupling for mating a pair of axial arranged first and second flanged fittings, the coupling comprises first and second arms adapted for pivotal connection to one another, and having open and closed relative pivotal positions in use; and a rotational assist mechanism adapted to mechanically effectuate the closing of the first and second arms relative to a pair of flanged fittings to be connected in use, and further adapted to provide motion between the first arm and the second arm to receive and secure the second flanged fitting angularly misaligned relative to the first flanged fitting. It is further noted, in this regard, that claim 1 was amended to remove the limitation that the first and second arms are mechanically synchronized, it being appreciated that such movement need not be synchronized, as noted on page 12, lines 21-24 of the specification. Among other possibilities, the rotational assist mechanism for closing the first and second arms could

include multiple independent actuators. Newly added dependent claim 33, dependent from claim 1, now effectively recites that such movement is synchronized.

As defined by claim 24, from which claims 25 and 31 depend, the present invention is directed to a self-aligning coupling for mating a pair of corresponding flanged fittings, comprising a pair of arms adapted for pivotal connection between open and closed positions, the arms at least partially defining a mating groove adapted to receive at least portions of a pair of flanged fittings to be coupled; and a rotational assist mechanism linking the arms and adapted to move the arms such that the flanged fittings being angularly misaligned can be received in the mating groove as the arms are effectively pivoted to the closed position.

However, Applicants find no teaching by Wolters et al of the self-aligning coupling as defined by claim 1 or 24. That is, Wolters et al disclose a high speed shut off and disconnect device for interconnected conduits, particularly cryogenic pipelines or conduits. (col. 1, lines 5-8). The device includes connecting two valve casings to the ends of two pipelines, which effectively constitute extension of the pipelines. (col. 2, lines 35-38). Each of the valve casings has a flange having front faces with interlocking structures for lateral (radial) displacement. (col. 2, lines 44-47). The clamping device for the conduits can include two lever arms, portions of which are constructed as bracket or clamp shoes. (col. 4, lines 2-4). The arms have pivot points interconnected by a traverse. (col. 4, lines 6-7). The free ends of the lever arms are interconnected by a drive with a cylinder and piston rod, such that the cylinder is pivotably linked to the arm, and the end of the arm holds the cylinder end of the drive in symmetric pivot support. (col. 4, lines 10-15). The drives push the piston rod out for separating the holding arms for the brackets, so that any ice deposit will be broken away by the action and no turning is needed. (col. 5, lines 7-11). Wolters et al do not teach a self-aligning coupling device to align a pair of flanged fittings, where the flanged fittings are angularly misaligned relative to each other.

Anticipation under 35 U.S.C. § 102 requires the disclosure in a single prior art reference of each element of the claims under consideration, *Alco Standard Corp. v. TVA*, 1 U.S.P.Q.2d 1337, 1341 (Fed. Cir. 1986). Wolters et al teach a hydraulic or pneumatic clamping mechanism allowing for radial alignment of the valve casings as illustrated in FIGS. 3 and 4, and further supported by the specification which indicates that the front faces of the flanges can be interlocking as far as radial relative displacement is concerned. (col. 2, lines 44-47). Wolters et al do not disclose a coupling device which corrects angular misalignment between the first and second flanged fittings as taught by the present invention. In view of the failures of Wolters et al to teach a self-aligning coupling as defined by claims 1 or 24, particularly in regards to a self-aligned coupling which connects flanged fittings having angular misalignment as presently claimed, Wolters et al do not disclose each element of the claims under consideration, and therefore, does not anticipate the self-aligning coupling of claims 1 or 24 under 35 U.S.C. § 102.

It is therefore submitted that the self-aligning coupling as defined by claims 1-5, 10, 24-25 and 31 are not anticipated by and are patentably distinguishable from Wolters et al and the rejection of claims 1-5, 10, 24-25 and 31 under 35 U.S.C. § 102 has been overcome. Reconsideration is respectfully requested.

Claims 13-14 and 19-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by the Cooper et al U.S. Patent 3,744,825 (hereinafter referred to as "Cooper et al"). The Examiner asserted that Cooper et al disclose a coupling for aligning flanged tubes. The Examiner alleged that the coupling has first and second arms having base ends (at hinge) and receiving ends, both pivotally connected adjacent a first flanged fitting end. Moreover, the Examiner asserted that Cooper et al teach that the second arm engages the first arm base end and that the receiving ends can be manually synchronously moved.

However, as will be set forth in detail below, it is submitted that the self-aligning

coupling defined by claims 13-14 and 19-20 are not anticipated by Cooper et al. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

As defined by claim 13, from which claims 14 and 19-20 depend, the present invention is directed to a self-aligning coupling for mating a pair of axial arranged first and second pipes, the mating ends of the first and second pipes having first and second flanged fittings, respectively, the self-aligning coupling comprises a first arm having a base end and a receiving end, the first arm base end pivotally connected adjacent to the first flanged fitting in use; and a second arm having a base end and a receiving end, the second arm base end pivotally connected adjacent to the first flanged fitting in use, wherein the second arm base end engages the first arm base end whereby the receiving ends of the arms can be synchronously moved between an open position and a closed position to receive and secure the flanged fitting of the second pipe.

However, Applicants find no teaching by Cooper et al of the self-aligning coupling as defined by claim 13. That is, Cooper et al disclose a more structurally reliable coupling for the standard "Conoseal" type tube joint with standard V-shaped tube flanges. (col. 2, lines 45-49). The coupling includes two C-shaped members, both having V-shaped channels. (col. 4, lines 62-65). The C-shaped members cooperate with the flanges to provide the desired sealing effect. (col. 4, lines 65-66). The C-shaped members are coupled around the flanges and held in the desired position with a pin (col. 5, lines 15-20). Furthermore, Cooper et al generally teach that the pin or jack screw is manually applied or tightened once the coupling is properly positioned. (col. 5, lines 67-68 – col. 6, lines 1-30). Cooper et al do not teach a self-aligning coupling device to align a pair of flanged fittings, where the receiving ends of first and second arms can be synchronously moved between an open position and a closed position to receive and secure the flanged fitting of a second pipe.

In order to anticipate, every element and limitation of the claimed invention must be

found in a single prior art reference, arranged as in the claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F3d 1376, 1383, 58 U.S.P.Q.2d 1286, 1291 (Fed. Cir. 2001); *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). Cooper et al teach a fixed coupling arrangement where the V-shaped flanged fittings substantially align the tubes and the clamping mechanism as depicted in FIGS. 1 and 2 is manually coupled to the tube joints in a non-uniform manner. Cooper et al do not disclose a self-aligning coupling device where the receiving ends of first and second arms can be synchronously moved between an open position and a closed position to receive and secure the flanged fitting of a second pipe as taught by the present invention. In view of the failures of Cooper et al to teach a self-aligning coupling as defined by claim 13, particularly in regards to a self-aligned coupling having synchronous movement between the arms to secure the second flanged fitting, as presently claimed, Cooper et al do not disclose each element of the claims under consideration, and therefore, does not anticipate the self-aligning coupling of claims 13 under 35 U.S.C. § 102.

It is therefore submitted that the self-aligning coupling as defined by claims 13-14 and 19-20 are not anticipated by and are patentably distinguishable from Cooper et al and the rejection of claims 13-14 and 19-20 under 35 U.S.C. § 102 has been overcome. Reconsideration is respectfully requested.

In the Official Action, claims 8 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wolters et al in view of Fahnoe U.S. Patent 3,575,683 (hereinafter referred to as "Fahnoe"). The Examiner alleged that Wolters et al teach the self-aligning coupling as noted above, including all the limitations of claims 8 and 9 except for a garter spring arranged to normally bias the arms toward the closed position. The Examiner asserted that Fahnoe teaches the use of a garter spring to maintain and ensure engagement of an outer sleeve with a pipe section to provide a good electrical connection. Moreover, the Examiner alleged that

although Fahnoe specifically teaches the use of a garter spring to provide a good electrical connection between components, the Examiner broadly contended that the spring could be used to maintain a tight and secure connection between two parts, and as such, asserted that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wolters et al's device to further include a garter spring in order to maintain and ensure a tight and secure connection between the two pipe fittings.

However, as will be set forth in detail below, it is submitted that the self-aligning coupling as defined by claims 8 and 9 are non-obvious over and patently distinguishable from Wolters et al in view of Fahnoe. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

Claims 8 and 9 depend from claim 1, such that claim 8 recites including a garter spring arranged to normally bias the arms on the self-aligning coupling toward its closed position. Claim 9 sets forth that the first and second arms could comprise a garter groove to at least partially receive the garter spring in use.

Fahnoe teaches an exhaust terminal of an expulsion fuse telescoped within a stationary contact sleeve with a seal therebetween to prevent flow of arc products between the terminal and contact sleeve. (abstract). Specifically, Fahnoe discloses that a good electrical connection between the exhaust terminal and an adapter or contact sleeve can be achieved when a good conducting material overlies the adapter or contact sleeve and has contact fingers which are urged by garter springs into good contact engagement with a cylindrical contact section of the exhaust terminal. (col. 3, lines 27-33).

However, Applicants find no teaching by Wolters et al alone or in combination with Fahnoe of the self-aligning coupling as defined by claims 8 or 9. That is, Wolters et al alone or in combination with Fahnoe do not teach a self-aligning coupling device to align a pair of flanged fittings, where the flanged fittings are angularly misaligned relative to each other.

It is well settled that to support a rejection under 35 U.S.C. § 103, a reference must provide an enabling disclosure, i.e., it must place the claimed invention in the possession of the public. *In re Payne*, 203 U.S.P.Q. 245 (CCPA 1979). As previously noted, the disclosure of Wolters et al do not teach the self-aligning coupling as defined by claim 1, from which claims 8 and 9 depend. Moreover, the disclosure of Fahnoe does not rectify the failings of Wolters et al, especially since the teachings of Fahnoe involve the electrical conductive advantages provided by the use of garter springs and provide no support of a coupling receiving and securing one flanged fitting angularly misaligned relative to the other, and as such, Fahnoe, in combination with Wolters et al, does not teach or suggest the presently claimed self-aligning coupling. In view of the failures of Wolters et al, alone or in combination with Fahnoe, to teach a self-aligning coupling as defined by claim 8 and 9, particularly in regards to a self-aligned coupling which connects flanged fittings having angular misalignment as presently claimed, Wolters et al, alone or in combination with Fahnoe, do not disclose each element of the claims under consideration, and therefore, does not teach or suggest the self-aligning coupling of claims 8 and 9 under 35 U.S.C. § 103.

It is therefore submitted that the cleaning compositions as defined by claims 8 and 9 are non-obvious over and patentably distinguishable from Wolters et al in view of Fahnoe and the rejection of claims 8 and 9 under 35 U.S.C. § 103 has been overcome. Reconsideration is respectfully requested.

It is believed that the above amendments and remarks represent a complete response to the objections and rejections under 35 U.S.C. §§ 102 and 103 placing the present application in condition for allowance. Reconsideration and an early allowance are requested.

Respectfully submitted,

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